

Appln No.: 10/524,122  
Amendment Dated: April 2, 2007  
Reply to Office Action of November 2, 2006

**REMARKS:**

This paper is filed in response to the Official Action mailed November 2, 2006 for the above-captioned application. Reconsideration of the application in light of the above amendment and following remarks is respectfully requested.

Applicants acknowledge the Examiner's indication of allowable subject matter, however, for the reasons set forth herein Applicants submit that all claims of the present application are in form for allowance. Applicants note that claim 11 has been amended and is in form for allowance.

The Examiner rejects claims 1-9 under 103 as obvious over Watson (GB 2,339,419) in view of Jones et al (GB2,322,450). The Examiner also rejects claims 10, 11, and 12 under 103 as obvious over the combination of Gisske and Bartlet. Applicant respectfully traverses these rejections and submits that the Examiner may have misunderstood the extent of the prior art.

By way of background, in the art of stairlifts, there is one mechanism for controlling the angle of the chair and an un-related (until the present invention) mechanism for preventing the carriage (on which the chair is mounted) from over-speeding as it moves down the rail.

In most modern curved stairlifts, such as these exemplified in the present application and (by implication) in GB 2,322,450 (Jones), one motor is provided to rotate the chair relative to the carriage, and a quite separate motor is provided to drive the carriage, together with the chair and an occupant of the chair, up and down the rail.

The over-speed governor applies between the carriage and the rail and, prior to the present invention, was triggered solely by excessive speed of the carriage on the rail. The present invention provides that it may also be triggered by excessive angular movement, from the horizontal, of the chair. This function is independent of any off-horizontal locking device between the chair and the carriage (e.g. components 23, 24 shown in Figure 1 of the present application) since, having regard to the speed of modern stairlifts, the chair may have gone excessively off-horizontal before these are activated.

Expressed simply, it is common practice to provide a stairlift with one braking device to prevent excessive speed of the carriage on the rail and another braking device to prevent excessive pivotal movement of the chair with respect to the carriage. However, prior to the present invention, it was not known to trigger the first type of braking device in response to measurement of chair angle.

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The essence of the present invention is shown very concisely in Figure 2 and is neither described or suggested by the prior art, either alone or in combination.

The Examiner contends that claim 1 is unpatentable over Watson (GB 2,339,419) in view of Jones et al (GB2,322,450). The applicant has no issue with the Examiner's interpretation of Watson but does take issue with the Examiner's understanding of Jones et al.

Jones et al is solely concerned with describing a system for controlling seat or chair angle on a stairlift. No description is provided of a working stairlift including the level control system described. The Examiner contends that reference to "some sort of Brake" at Page 4, line 12 of Jones could mean an over-speed governor acting between the carriage and the rail. With respect, the "Brake" referred to in Jones et al could not mean an over-speed governor braking the carriage on the rail, as an over-speed governor would not address or provide a safety back-up to the problem addressed in the Jones patent, namely that of the seat or chair tilting excessively. Clearly what is meant as by "some sort of Brake" in Jones et al, is a device which locks the seat or chair with respect to the carriage. Such devices are included in all curved stairlifts of a type in which the chair pivots with respect to the carriage. The components labeled 23 and 24 in Figure 1 of the present application are an example of such a device. A further example is provided by components 52 and 53 in Fig 1 of Applicant's earlier US Patent 5,720,364.

In the third paragraph of page 7 of the Office Action, the Examiner states: "Jones, therefore, introduces the concept of braking the speed of the stairlift should the chair, while following the changing gradient as designed for "normal stairlift operating speeds" be displaced beyond a set (maximum) angle of deviation.

We believe that this statement is erroneous. The language used by the Examiner, and quoted in the preceding paragraph, appears to be based on Jones et al at Page 1, 4th paragraph. However, this section is talking of dealing with angular speed of rotation of the chair about a horizontal axis, and not of excessive speed of the carriage on the rail. Other than the general reference to 'normal stairlift operating speeds' on Page 1, Jones is wholly silent as to movement of the carriage along the rail. There is absolutely no suggestion in Jones et al of any link between control of chair angle and control of carriage movement along the rail.

It is thus submitted that claims 1 to 7 are patentable over Watson in view of Jones et al.

The Examiner has rejected claim 8 as, again, being unpatentable over Watson in view of Jones et al. In this rejection the Examiner relies on the same interpretation of "some sort of Brake" as is discussed in detail above, and traversed.

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We therefore submit that claim 8 is patentable over the cited art, and should be allowed. The same submission applies to claim 9.

In relation to claim 10, the testing method claimed is not a general testing method but is quite specific to a stairlift having particular form of over-speed governor. While Gisske acknowledges the existence of an over-speed generator there is no description given of the form of the governor and no deduction can therefore be made as to how that governor might be assembled and tested. As far as the Applicant can see, Bartlett makes no mention of an over-speed governor, let alone one acting in combination with electronic speed sensing means. It therefore remains the applicant's submission that claim 10 in its present form is patentable.

The Examiner maintains that amended claim 11 is unpatentable over Gisske et al in view of Bartlett. The Examiner contends that Gisske et al discloses "...Limit engagement means (60, 58) operable independently of said over-speed governor and positioned to engage limit stops at each end of the rail...". The Examiner further contends that Gisske et al discloses "...and wherein said over-speed governor and said limit engagement means actuate a common isolation switch to disengage the drive motor".

It is believed that the additional amendments proposed above to claim 11 clearly overcome the Examiner's arguments.

We submit that the argument raised by the Examiner, that the limit stops can be provided by the infrared transmitters of Gisske, would not be understood by a person skilled in the art as constituting 'ultimate' limit stops. Indeed, regulations governing the design of stairlifts specifically exclude, for safety reasons, electronic devices being used as ultimate limit stops.

Bartlett shows the provision of the physical ultimate limit stops in the form of bumpers 103. These are positioned to engage and trigger limit switches 105 provided on the carriage. However, there is no mention of an over-speed governor in Bartlett, let alone one which acts in conjunction with switches 105.

The Examiner correctly points out that Gisske is concerned with an electrical/infrared control circuit for a stairway wheelchair lift and many of the mechanical elements that would be included in a physical embodiment of such a limit are simply not described. No one, let alone one skilled in the art, could form an accurate or realistic view as to how physical elements which are not described (the ultimate limit stops) might operate in conjunction with the over-speed governor, particularly in the manner required in claim 11.

Claim 11 is very specific. Limit engagement means comprised in the carriage (which modules 60 of Gisske are not) must, on engagement with the limit stops provided at the rail ends,

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trigger the same isolation switch as is triggered on actuation of the over-speed governor. A person skilled in the art could not deduce this from Gisske and/or Bartlet - either alone or in combination. It is thus submitted that Claim 11 is patentable.

For these reasons, this application is now considered to be in condition for allowance and such action is earnestly solicited. Applicant herein requests a two-month extension of time to make this paper timely filed and enclose the required fee, no other fee is believed to be due with this filing.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read "Marina T. Larson", is written over a horizontal line.

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